

Flying

AIRCRAFT OPERATION AND MOVEMENT ON THE GROUND

AFI 11-218, 26 May 1994, is supplemented as follows.

SUMMARY OF CHANGES

This revision constitutes a major rewrite of NGR (AF) 60-011 and requires a thorough and comprehensive review by all users. It establishes the requirement for engine run personnel to perform an engine run every 90 days, and to pass a written test every six months. Establishes an engine run training program for personnel occupying the cockpit during engine runs. Prohibits maintenance personnel from taxiing aircraft. Lists conditions that must be met to taxi fighter aircraft with less than ten-foot wingtip clearance. Establishes additional requirements for towing aircraft without brake pressure. Establishes requirement for personnel who marshal aircraft to pass a written exam. Authorizes aircrew members or crew chiefs of transport type aircraft to marshal aircraft when USAF ground marshalers are not available.

1.4.2.1. (Added) The LG/CC or OG/CC (as appropriate) will authorize in writing or in the Core Automated Maintenance System (CAMS), those maintenance personnel selected to start, operate, warm-up or test engines installed in aircraft. To ensure personnel remain highly proficient, commanders should keep the number of personnel certified to the minimum level needed to adequately support mission requirements, update and manage certification, recertification, and testing requirements using appropriate CAMS computer products. Personnel selected for run-up duty must:

1.4.2.1.1. Possess a five-level or higher AFSC.

1.4.2.1.2. Have completed the appropriate egress familiarization course.

1.4.2.1.3. Be qualified in aircraft marshaling.

1.4.2.1.4. Maintain run-up proficiency by performing at least one engine run every 90 days. All maintenance personnel required by technical data to occupy the cockpit during maintenance runs are given credit for running an engine. Work center supervisors and individual engine operators are responsible for ensuring they meet this requirement. Commanders will decertify personnel who do not maintain proficiency. Recertification requires completing annual recertification requirements in paragraph 1.4.2.4.

1.4.2.1.5. Complete a written test on emergency procedures every six months. This requirement is tracked in CAMS and requires a 100 percent score to pass. Personnel who do not take, or fail to pass, the six-month emergency procedures test will not operate engines until they meet testing requirements. Retesting will be accomplished using a different set of questions. Supervisors determine if training is required before retesting.

1.4.2.2. (Added) Units possessing aircraft equipped with APUs/GTCs will develop an operators' course separate from engine run training. All personnel who operate aircraft APUs/GTCs will complete this one-time course. Document qualification in CAMS.

1.4.2.3. (Added) Maintenance personnel designated to occupy the cockpit (left and right seats or engineer seat, if applicable) during engine runs will complete the following engine run training before certification as "Engine Run Certified" or "Engine-Run Certifying Official" on each MDS/engine series. This training program consists of three phases: classroom training, simulator training, and actual aircraft-run training/experience. This program must be accomplished sequentially without exception to the fully qualified level. Units may use FTD courses, when available, to satisfy the requirements for phase 1 and 2 training. In every case, accomplish all objectives of the three-phase program. Academic instructors are not required to be engine run certified. Units may use AFETS personnel for this duty.

1.4.2.3.1. Phase 1 consists of academic instruction to include the following:

1.4.2.3.1.1. Engine systems familiarization.

1.4.2.3.1.2. Maintenance manual and maintenance engine run checklist familiarization.

1.4.2.3.1.3. Normal engine start and operating procedures, parameters, and limitations.

1.4.2.3.1.4. Normal and emergency brake system operation.

1.4.2.3.1.5. Emergency aircraft egress.

1.4.2.3.1.6. UHF/VHF radio operation (including guard channel and radio discipline) and emergency radio transmission terminology and requirements.

1.4.2.3.1.7. Airframe and engine emergency procedures. Instructors must ensure students have full understanding and knowledge of warnings, cautions and notes in the maintenance technical orders. Give students a written examination to demonstrate complete understanding of emergency procedures and engine/airframe limitations. Minimum passing score is 100 percent on boldface emergency procedures and 90 percent corrected to 100 percent on aircraft systems, normal procedures and limitations.

1.4.2.3.2. Phase 2 training will be accomplished in an ATD, CPT, simulator, or approved FTD trainer (if assigned/available). If the weapon system specific trainer is not available, accomplish "dry run" training on an aircraft. Training will include ATD familiarization, at least three normal engine starts and runs, and a demonstration of engine and other aircraft systems emergency procedure knowledge. Ensure technical order boldface items and critical engine operating limitations are committed to memory. Instructors will evaluate the student on response time and ability to handle emergency situations.

1.4.2.3.3. Phase 3 training consists of observation and practical instruction in the aircraft with an engine run certifying official. For fighter type aircraft, it is preferable to conduct the evaluation in a hush house, sound suppresser, or on a trim pad tie-down.

1.4.2.3.3.1. The student must successfully complete a test developed from engine run technical data, on emergency and normal operating procedures. This test will consist of a minimum of 25 questions and

will be different than the phase 1 test. The minimum passing score is 100 percent on emergency procedures, and 90 percent on the remainder of the questions, corrected to 100 percent. Failure to achieve a passing score requires further training before retesting. Use a new set of questions when retesting.

1.4.2.3.3.2. Accomplish at least two engine runs (engine start to engine shutdown) to ensure the individual is proficient and to confirm the adequacy of phase 2 training. Failure to demonstrate proficiency during the practical evaluation requires further training based on the certifying official's determination of deficiencies. Certify individuals after successful completion of phase 3 training.

1.4.2.3.4. The LG/CC or OG/CC (as appropriate) designates selected 7-level or above technicians, instructor pilots (IPs), qualified maintenance officers, and/or AFETS personnel to perform as certifying officials. Except for pilots, certifying officials must meet the 90-day proficiency requirements in paragraph 1.4.2.1.; pilots must be current and qualified in the aircraft.

1.4.2.4. (Added) Annual recertification is accomplished by successfully completing the phase 3 written test and demonstrating knowledge of normal and emergency procedures to a certifying official in the ATD, CPT, simulator, authorized FTD trainer (if assigned/available), or in an aircraft.

1.4.2.4.1. Accomplish retesting with a different set of questions.

1.4.2.4.2. Individuals who do not successfully complete the written or practical evaluation will be referred to their supervisor for determination of whether or not they are to be retained in the program.

1.4.2.5. (Added) If the individual running the aircraft is in training status, the trainer will maintain visual contact and voice communication via the intercom system. For large aircraft, the trainer will be in the cockpit. All trainers must be engine run certified.

1.4.2.6. (Added) Commanders may waive phase 1 training for personnel previously certified at another unit, with the same MDS/engine combination. How-

ever, individuals must still meet phase 2 and 3 requirements.

1.4.3. (Added) Units possessing F-15/F-16 aircraft equipped with F-100-PW-100/200 engines, will certify engine trim box operators to the fully qualified level. Completion of phase 1 engine run training (or FTD course 452X4A-005 for F-15, 452X4B-005 for F-16) and supervisor's evaluation constitutes certification. The maintenance supervisor may waive FTD for previously qualified personnel based on the individual's experience. Supervisors will evaluate and recertify personnel semiannually. Use appropriate CAMS products to manage this certification. Before engine start, the aircraft operator and trim crew will review all emergency procedures and critical engine limits.

1.4.3.1. The aircraft operator has the primary responsibility for the overall safety of the trim operation. The engine run operator must be knowledgeable of emergency procedures and take immediate corrective action should a problem occur.

1.4.3.2. The trim box operator is responsible for the trim procedure. Operators ensure they trim the engine to the correct parameters and verify the trim targets with the aircraft operator during the trim operation.

1.4.3.3. Personnel authorized to trim engines perform at least one engine trim every 90 days to maintain proficiency. Work center supervisors ensure personnel meet this requirement. Supervisors re-evaluate personnel not maintaining proficiency before they perform their next engine trim.

1.5.2. (Added) Maintenance personnel operating fighter type aircraft are exempt from using seat belt and shoulder harness during engine maintenance runs. Use seat/lap belts when performing maintenance runs on all other type aircraft.

1.5.4. (Added) Units will establish a unit directive which includes the maximum RPM limitations for parking areas and other high traffic/congested areas, minimum fuel loads, or any local restrictions for engine runs.

1.6. (Added) Aircraft with self-sufficient start capability do not have to turn on aircraft position lights prior to engine start. Position lights will be turned on as soon as aircraft power is available.

1.7. (Added) Establish voice communications with tower, ground control, or maintenance control (or the agency that provides emergency response control) before engine start, if possible, or immediately after engine start.

1.9.1. (Added) Maintenance personnel will not taxi aircraft.

1.11.3. (Added) ANG fighter type aircraft may taxi to or from parking spots and alert hangars that do not provide the minimum 10-foot clearance from obstacles when:

1.11.3.1. The obstacles are specifically associated with a parking spot.

1.11.3.2. A taxi stripe and marshalers are used.

1.11.3.3. Moveable equipment is placed in designated areas with access doors and panels closed.

1.11.3.4. No turns are necessary while any part of the aircraft is within 10 feet of an obstacle.

1.11.3.5. Parking spots/locations are assigned waivers approved by the OG/CC.

1.11.3.6. Pilot local orientation includes procedures, techniques, and cautions for taxiing under these waiver circumstances.

1.13. AFOSH 127-100 outlines additional tow requirements.

1.13.2. Document qualifications in CAMS.

1.13.3. (Added) For routine towing operations, the towing supervisor must have at least a 5-level AFSC and be tow-qualified on the MDS being towed.

1.13.4. (Added) All towing procedures listed in applicable towing checklists are adhered to when towing aircraft without brake pressure, with the following additional requirements:

1.13.4.1. The LG/CC or OG/CC (or their designated representative) will approve all towing without brake pressure.

1.13.4.2. Radio communication is available throughout the towing operation to maintain communications with the MOC/Tower, as applicable.

1.13.4.3. The tow team consists of the personnel required by the applicable towing checklist, with the following exceptions:

1.13.4.3.1. Does not require aircraft brake operators.

1.13.4.3.2. Requires additional personnel to chock walk the aircraft. Position personnel outboard of each landing gear strut requiring chocks in accordance with the applicable towing checklist. Personnel drag or carry a minimum of one chock, with additional chocks immediately available to chock the aircraft properly, in case of an emergency stop.

1.13.4.4. If the tow vehicle cannot stop the aircraft during an emergency stop, the chock walkers insert (from the side) a chock in the front or rear of their respective landing gear tires, depending on forward or aft movement. The chock walkers should try to insert the chocks simultaneously; however, this may not always be possible. **WARNING:** Personnel inserting chocks while the aircraft is moving, should immediately run in the opposite direction of aircraft movement since the wheel may eject or expel the chock.

1.13.4.5. Before towing an aircraft from fuel cell hangars or designated fuel locations, the tow team supervisor will coordinate with the fuel cell supervisor to confirm the aircraft is safely configured to tow.

1.13.4.6. For emergency stop communication equipment, refer to applicable aircraft towing checklist.

2.1. Personnel who marshal aircraft will take a written marshaling test. Minimum passing score is 70 percent corrected to 100 percent. Conduct a practical evaluation in the duty section and evaluate all marshaling signals applicable to the unit/MDS. Document training on STS/JQS or AF Form 797, *Job Qualification Standard, Continuation/Command JQS*. Aircrew may satisfy this requirement in conjunction with their checkride; however, all of the requirements of this paragraph must be met, including specific documentation for marshaling training.

2.3.5. (Added) When USAF ground marshalers are not available, the aircraft commander on cargo or transport type aircraft may use aircrew members or crew chiefs as marshalers. These individuals must be able to deplane safely with engines running and be familiar with AFI 11-218 marshaling signals.

Attachment 2, Paragraph a(1). (Added) On fighter type aircraft, marshalers may position themselves forward of the wing in the direction of taxi, and in full view of the pilot. This enables the marshaler to stand inside the aircraft's turn and provides protection from injury due to jet blast. Marshal all other aircraft IAW the basic regulation and NATO standards.

DONALD W. SHEPPERD
Major General, USAF
Director, Air National Guard

OFFICIAL

DEBORAH GILMORE
Acting Chief
Administrative Services